

Claim 159

(a) A method for producing a plasma display, comprising

JP 713		
1	All Claims and Title	A method for producing a plasma display
2	Page 3, first paragraph, lines 1 and 2	The present invention relates to a new method for producing a plasma display panel.



(a) A method for producing a plasma display, comprising

U.S. Application		
1	Title	A method and apparatus for producing a plasma display
2	Page 1, second paragraph, lines 1 and 2	The present invention relates to a method and apparatus for producing a new plasma display
3	Page 5, first paragraph	The method for producing a plasma display of the present invention comprises the step of continuously applying a phosphor paste containing a phosphor powder and an organic compound onto a substrate with a plurality of barrier ribs from a paste applicator with a plurality of outlet holes, to form a phosphor layer.
4	Page 5, second paragraph, lines 1-2	The method for producing a plasma display of the present invention includes the following preferable embodiments.
5	The paragraph spanning Pages 17 and 18	A plasma display mainly consists of a front glass substrate and a rear glass substrate, and has a rare gas contained between the substrates sealed.
6	Claim 1	A method for producing a plasma display, comprising the step of continuously applying a phosphor paste containing a phosphor powder and an organic compound onto a substrate with a plurality of barrier ribs, from a paste applicator with a plurality of outlet holes, to form a phosphor layer.

(b) coating a substrate

JP '713			<p>A method for producing a plasma display, in which a glass substrate with partitions formed on it is coated with a fluorescent paste containing a fluorescent material and an organic binder discharged from a paste applicator with outlet holes, and the paste is burned to form a fluorescent material layer, characterizes in that the spaces A between the respectively adjacent partitions and the average diameter B of the outlet holes satisfy the following condition: $500 \mu\text{m} \geq A > B \geq 10 \mu\text{m}$.</p>
2		Page 5, first paragraph and Fig. 1	<p>In the method of the present invention, a glass substrate 3 with electrodes 1 and partitions 2 formed on it is partially coated with a fluorescent paste, particularly fluorescent materials emitting light of three primary colors of red, blue and green in stripes, to form a red fluorescent material layer 4, a blue fluorescent material layer 5 and a green fluorescent material layer 6 respectively.</p>
3		Page 22, last paragraph	<p>A glass substrate with an electrode layer and a partition layer formed on it is coated with fluorescent pastes at desired places. For coating, each of the fluorescent pastes is discharged from a paste applicator with one or more outlet holes. The fluorescent pastes of R, G and B colors are applied in stripes by turns, to form fluorescent material layers of respective colors.</p>

4	Page 27, second paragraph	A <u>glass substrate</u> with two thousand 120 μm high 30 μm wide partitions formed at a pitch of 150 μm <u>was coated</u> with the respective pastes of red, green and blue in stripes.
5	Page 28, last paragraph	A <u>glass substrate</u> with two thousand 140 μm high 50 μm wide partitions formed at a pitch of 360 μm <u>was coated</u> with the respective pastes of red, green and blue in stripes.
6	Page 30, first paragraph	A <u>glass substrate</u> with two thousand 120 μm high 30 μm wide partitions formed at a pitch of 150 μm <u>was coated</u> with the respective pastes of red, green and blue in stripes.

(b) coating a substrate

U.S. Application	
1	Claim 1 A method for producing a plasma display, comprising the step of continuously <u>applying a phosphor paste</u> containing a phosphor powder and an organic compound <u>onto a substrate</u> with a plurality of barrier ribs, from a paste applicator with a plurality of outlet holes, to <u>form a phosphor layer</u> .
2	Abstract, second paragraph, lines 1-5 The method for producing a plasma display of the present invention comprises the step of <u>continuously applying a phosphor paste</u> containing a phosphor powder and an organic compound <u>onto a substrate</u> with a plurality of barrier ribs, from a paste applicator with a plurality of outlet holes.
3	Page 5, lines 2-7 The method for producing a plasma display of the present invention comprises the step of <u>continuously applying a phosphor paste</u> containing a phosphor powder and an organic compound <u>onto a substrate</u> with a plurality of barrier ribs from a paste applicator with a plurality of outlet holes, to form a phosphor layer.
4	Page 37, lines 15-17 <u>A phosphor paste</u> prepared as described above is <u>applied to the spaces between the respective adjacent barrier ribs of the substrate</u> with a plurality of barrier ribs.

(c) having a plurality of adjacent barrier ribs,

JP '713	
1	<p>Claim 1</p> <p>A method for producing a plasma display, in which a glass substrate with <u>partitions formed on it</u> is coated with a fluorescent paste containing a fluorescent material and an organic binder discharged from a paste applicator with outlet holes, and the paste is burned to form a fluorescent material layer, characterizes in that the <u>spaces A between the respectively adjacent partitions and the average diameter B of the outlet holes satisfy the following condition: $500 \mu\text{m} \geq A > B \geq 10 \mu\text{m}$.</u></p>
2	<p>Page 5, first paragraph and Fig. 1</p> <p>In the method of the present invention, a glass substrate 3 with electrodes 1 and <u>partitions 2 formed on it</u> is partially coated with a fluorescent paste, particularly fluorescent materials emitting light of three primary colors of red, blue and green in stripes, to form a red fluorescent material layer 4, a blue fluorescent material layer 5 and a green fluorescent material layer 6 respectively.</p>
3	<p>Page 6, second paragraph, lines 3-5</p> <p>In this case, it is preferable that <u>the partitions 2 are formed at a pitch of $80 \mu\text{m}$ to $500 \mu\text{m}$</u>, and a more preferable range is 80 to 200 μm.</p>

4	Page 27, second paragraph	<u>A glass substrate with two thousand 120 μm high 30 μm wide partitions</u> <u>formed at a pitch of 150 μm was coated with the respective pastes</u> <u>of red, green and blue in stripes. (in Example 1)</u>
5	Page 28, last paragraph	<u>A glass substrate with two thousand 140 μm high 50 μm wide partitions</u> <u>formed at a pitch of 360 μm was coated with the respective pastes</u> <u>of red, green and blue in stripes. (in Example 2)</u>
6	Page 30, first paragraph	<u>A glass substrate with two thousand 120 μm high 30 μm wide partitions</u> <u>formed at a pitch of 150 μm was coated with the respective pastes</u> <u>of red, green and blue in stripes. (in Example 3)</u>

(c) having a plurality of adjacent barrier ribs,

	U.S. Application	
1	Page 5, first paragraph, lines 1-6	The method for producing a plasma display of the present invention comprises the step of continuously applying a phosphor paste containing a phosphor powder and an organic compound onto a substrate with a plurality of barrier ribs from a paste applicator with a plurality of outlet holes, to form a phosphor layer.
2	Page 37, third paragraph, lines 2-8 and Fig. 1	A phosphor paste prepared as described above is applied to the spaces between the respectively adjacent barrier ribs of the substrate with a plurality of barrier ribs. Fig. 1 shows a state where the phosphor paste is applied from the outlet holes of a paste applicator to coat the spaces between the respectively adjacent phosphor (should be read as barrier ribs) of the substrate provided with electrodes, dielectric and barrier ribs.
3	Page 68, lines 15-19	Thus, 1921 barrier ribs with a width of 30 μm and a height of 130 μm were formed at a pitch of 220 μm . The glass substrate with barrier ribs formed like this was coated with the phosphor pastes composed as follows, using an apparatus shown in Fig. 3. (in Example 1)
4	Page 74, lines 8-10	a glass substrate with 2000 barrier ribs with a height of 120 μm

		and a width of 30 μm <u>formed at a pitch of 150 μm was used.</u> (in Example 8)
5	Page 75, lines 2-4	<u>a glass substrate with 2000 barrier ribs with a height of 140 μm</u> and a width of 50 μm <u>formed at a pitch of 360 μm,</u> (in Example 9)

(d) with three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue

JP '713		Page 5, first paragraph	In the method of the present invention, a glass substrate 3 with electrodes 1 and partitions 2 formed on it is partially coated with a fluorescent paste, particularly fluorescent materials emitting light of three primary colors of red, blue and green in stripes, to form a red fluorescent material layer 4, a blue fluorescent material layer 5 and a green fluorescent material layer 6 respectively.
2		Page 5, third paragraph	For forming the fluorescent material layers, at first, paste containing one fluorescent material selected from three colors of R, G and B is discharged from a paste applicator 8 with one or more outlet holes 7, for coating the substrate, and this operation is repeated three times for R, G and B. Then, the pastes are dried and burned, to form the fluorescent material layers. As another method, the respective fluorescent materials of R, G and B can be discharged from a paste applicator with outlet holes for simultaneously discharging R, G and B, dried and burned, to form the respective fluorescent material layers.
3		Page 7, third paragraph, lines 1 and 2	After the respective photosensitive fluorescent pastes of R, G and B colors are discharged from the outlet holes for coating,
4		Page 22, last paragraph	(1) Coating step A glass substrate with an electrode layer and a partition layer formed

	<p>on it is coated with fluorescent pastes at desired places. For coating, each of the fluorescent pastes is discharged from a paste applicator with one or more outlet holes. <u>The fluorescent pastes of R, G and B colors are applied in stripes by turn, to form fluorescent material layers of respective colors.</u></p>
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(d) with three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue

U.S. Application		
1	Page 7, last paragraph, lines 1-3	(20) A method for producing a plasma display in which <u>three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue are applied to the spaces</u> <u>The phosphor powders used emit light of red, green and blue. As phosphor powders used in the present invention, those emitting light of red include ---. Those emitting light of green include ---. Those emitting light of blue include ---.</u>
2	Page 21, first paragraph	

(e) as stripes in spaces between said respectively adjacent barrier ribs,

JP '713	Claim 3	A method for producing a plasma display, according to claim 1, wherein <u>fluorescent material layers</u> different in color are formed in <u>stripes</u> .
2	Page 5, first paragraph and Fig. 1	In the method of the present invention, a glass substrate 3 with electrodes 1 and partitions 2 formed on it is partially coated with a <u>fluorescent paste</u> , particularly fluorescent materials emitting light of three primary colors of red, blue and green in <u>stripes</u> , to form a red fluorescent material layer 4, a blue fluorescent material layer 5 and a green fluorescent material layer 6 respectively.
3	Page 7, first paragraph, lines 5-9	If the fluorescent material layer is <u>formed</u> not only on the <u>spaces between the partitions</u> but also along the lateral sides of the partitions, the fluorescent material face can have a larger area, to effectively improve the luminance of the plasma display.
4	Page 22, last paragraph	A glass substrate with an electrode layer and a partition layer formed on it is coated with fluorescent pastes at desired places. For coating, each of the fluorescent pastes is discharged from a paste applicator with one or more outlet holes. The fluorescent pastes of R, G and B colors are <u>applied in stripes</u> by turns, to form fluorescent material layers of respective colors.

5	Page 23, second paragraph	Each of the fluorescent materials of a plasma display is required to have a thickness of 10 to 50 μm on the bottoms of <u>the spaces between the respectively adjacent partitions</u> and along the lateral sides (as a thickness measured at a half-height position of each partition) of the partitions.
6	Page 27, second paragraph	A glass substrate with two thousand 120 μm high 30 μm wide partitions formed at a pitch of 150 μm <u>was coated</u> with the respective pastes of red, green and blue <u>in stripes</u> . (in Example 1)
7	Page 28, last paragraph	A glass substrate with two thousand 140 μm high 50 μm wide partitions formed at a pitch of 360 μm <u>was coated</u> with the respective pastes of red, green and blue <u>in stripes</u> . (in Example 2)
8	Page 30, first paragraph	A glass substrate with two thousand 120 μm high 30 μm wide partitions formed at a pitch of 150 μm <u>was coated</u> with the respective pastes of red, green and blue <u>in stripes</u> . (in Example 3)

(e) as stripes in spaces between said respectively adjacent barrier ribs,

U.S. Application	
1	<p>A method for producing a plasma display, comprising the steps of coating a substrate with a plurality of barrier ribs with three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue, as stripes in the spaces between the respectively adjacent barrier ribs from a paste applicator with outlet holes, and heating to form a phosphor layer.</p>
2	<p>A method for producing a plasma display, according to claim 1 or 2, wherein the space (S) between the respective adjacent barrier ribs and the average diameter (D) of the outlet holes satisfy the following formula: $10 \mu\text{m} \leq D \leq 500 \mu\text{m}$.</p>
3	<p>A method for producing a plasma display, according to claim 1 or 2, wherein the barrier ribs are provided as stripes with the following dimensions: Pitch: 100-250 μm, Width: 15-40 μm, Height: 60-170 μm.</p>
4	<p>The method for producing a plasma display of the present invention also comprises the steps of coating a substrate with a plurality of barrier ribs, with three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue, as stripes in the spaces between the barrier ribs on the substrate, from a paste</p>

		applicator with outlet holes, and heating to form a phosphor layer.
5	Page 20, lines 4-7	<u>The barrier ribs can be formed as stripes or lattice for partitioning the electric discharges of the respective electric discharge cells. Barrier ribs formed as stripes are preferable since they can be formed simply at a low cost.</u>
6	Page 37, third paragraph, lines 2-8 and Fig. 1	<u>A phosphor paste prepared as described above is applied to the spaces between the respective adjacent barrier ribs of the substrate with a plurality of barrier ribs. Fig. 1 shows a state where the phosphor paste is applied from the outlet holes of a paste applicator to coat the spaces between the respectively adjacent phosphor (should be read as barrier ribs) of the substrate provided with electrodes, dielectric and barrier ribs.</u>
7	Abstract, second paragraph, lines 6-12	<u>-- Furthermore, the present invention comprises the steps of coating a substrate with a plurality of barrier ribs, with three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue, as stripes in the spaces between the respectively adjacent barrier ribs on the substrate, from a paste applicator with outlet holes, and heating to form a phosphor layer.</u>

(f) from 600 to 2000 outlet holes and

JP '713	
1	Page 6, lines 1-3 It is preferable to discharge the fluorescent pastes simultaneously from a paste applicator with <u>600 to 2500 outlet holes for discharging the respective colors of R, G and B,</u>
2	Page 23, lines 1 and 2 So, it is preferable to discharge a fluorescent paste from a paste applicator with <u>1 to 2000 outlet holes,</u>
3	Page 27, last paragraph, lines 1 and 2 For coating, from a paste applicator having <u>640 outlet holes with a diameter of 80 μm formed at a pitch of 450 μm, (in Example 1)</u>
4	Page 29, paragraph 1, lines 1 and 2 For coating, a paste applicator having <u>1940 outlet holes with a diameter of 100 μm formed at a pitch of 360 μm and (in Example 2)</u>
5	Page 30, second paragraph, lines 1 and 2 For coating, a paste applicator having <u>640 outlet holes with a diameter of 80 μm formed at a pitch of 450 μm was used (in Example 3)</u>

(f) from 600 to 2000 outlet holes and

U.S. Application	
1	Page 5, last paragraph (3) The paste applicator used has <u>20 to 2000 outlet holes</u> , more preferably <u>150 to 2000 outlet holes</u> .
2	Page 38, lines 16-23 The number of outlet holes can be <u>1 to 6000</u> , but a desirable range is <u>20 to 200 (should be read as 2000)</u> . If the number of outlet holes is too small, it takes too much time for coating. If the number is <u>150 or more</u> desirably, a phosphor layer suitable for a highly precise plasma display can be formed in a short time. If the number of holes exceeds <u>2000</u> , it is difficult to secure the accuracy of the outlet holes, and to provide a highly precise plasma display.
3	Page 69, lines 13 and 14 One paste applicator with <u>64 outlet holes</u> with an average diameter of <u>150 μm</u> formed at a pitch of <u>660 μm</u> (in <u>Example 1</u>)
4	Page 71, lines 9-12 A phosphor layer was formed as described in <u>Example 1</u> , except that the number of <u>outlet holes was 640</u> , instead of <u>64</u> , and that the coating with one-color phosphor paste was completed by one time of paste applicator movement. (in <u>Example 4</u>)
5	Page 74, lines 10 and 11 that a paste applicator with <u>640 outlet holes</u> with a diameter of <u>80 μm</u> formed at a pitch of <u>450 μm</u> was used, (in <u>Example 8</u>)
6	Page 75, lines 4 and 5 that a paste applicator with <u>1940 outlet holes</u> with a diameter of <u>100 μm</u> formed at a pitch of <u>360 μm</u> , (in <u>Example 9</u>)

7	Claims 5 and 6	<p>5. A method for producing a plasma display, according to claim 1 or 2, wherein the paste applicator used has <u>20 to 2000 outlet holes</u>.</p> <p>6. A method for producing a plasma display, according to claim 5, wherein the paste applicator used has <u>150 to 2000 outlet holes</u>.</p>
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(g) of an average diameter of 10 to 500 μm

JP '713	
1	<p>Claim 1</p> <p>A method for producing a plasma display, in which a glass substrate with partitions formed on it is coated with a fluorescent paste containing a fluorescent material and an organic binder discharged from a paste applicator with outlet holes, and the paste is burned to form a fluorescent material layer, characterizes in that the spaces A between the respectively adjacent partitions and the <u>average diameter B of the outlet holes satisfy the following condition: $500 \mu\text{m} \geq A > B \geq 10 \mu\text{m}$.</u></p>
2	<p>Page 5, lines 1-3</p> <p>and the average diameter B of the outlet holes satisfy the following condition: <u>$500 \mu\text{m} \geq A > B \geq 10 \mu\text{m}$</u></p>
3	<p>Page 6, second paragraph, lines 1-3</p> <p>It is preferable that the <u>inner diameter of the outlet holes used in the present invention is 10 to 500 μm, and more preferable range is 50 to 200 μm.</u></p>

(g) of an average diameter of 10 to 500 μm

U.S. Application	
1	Page 5, lines 18-20 and the average diameter (D) of the outlet holes satisfy the following formula: $10 \mu\text{m} \leq D \leq S \leq 500 \mu\text{m}$
2	Page 38, lines 4-6 The outlet holes can have an inner diameter of 10 to 500 μm , and a preferable diameter range is 50 to 500 μm .
3	Page 38, lines 11-15 and the average diameter (D) of the outlet holes satisfy the following relation, the application of the phosphor paste onto the top surfaces of the barrier ribs can be further inhibited. $10 \mu\text{m} \leq D \leq S \leq 500 \mu\text{m}$
4	Page 60, third paragraph It is also preferable that the average diameter of the outlet holes of the paste applicator is 10 μm to 500 μm , and not larger than the spaces between the barrier ribs, and this prevents the mixing of adjacent colors.
5	Claim 3 A method for producing a plasma display, according to claim 1 or 2, wherein the space (S) between the respective adjacent barrier ribs and the average diameter (D) of the outlet holes satisfy the

		following formula: $10 \mu\text{m} \leq \underline{D} \leq S \leq 500 \mu\text{m}.$
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(h) contained in a paste applicator positioned above the substrate

JP '713	
1	<p>Page 5, third paragraph and Fig. 1</p> <p>For forming the fluorescent material layers, at first, <u>paste</u> containing one fluorescent material selected from three colors of R, G and B is <u>discharged from a paste applicator 8 with one or more outlet holes 7, for coating the substrate</u>, and this operation is repeated three times for R, G and B. Then, the pastes are dried and burned, to form the fluorescent material layers. As another method, the respective fluorescent materials of R, G and B can be discharged from a paste applicator with outlet holes for simultaneously discharging R, G and B, dried and burned, to form the respective fluorescent material layers.</p>
2	<p>Page 22, last paragraph</p> <p>A glass substrate with an electrode layer and a partition layer <u>formed on it is coated with fluorescent pastes at desired places</u>. For coating, each of the <u>fluorescent pastes is discharged from a paste applicator with one or more outlet holes</u>. The fluorescent pastes of R, G and B colors are applied in stripes by turns, to form fluorescent material layers of respective colors.</p>
3	<p>Page 27, last paragraph, lines 1-4</p> <p>For coating, <u>from a paste applicator having 640 outlet holes with a diameter of 80 μm formed at a pitch of 450 μm, at first the red fluorescent paste was discharged, and dried at 80°C for 60 minutes with the coated side turned downward.</u></p>

4	Page 30, second paragraph, lines 1-6	For coating, a <u>paste applicator</u> having 640 outlet holes with a diameter of 80 μm formed at a pitch of 450 μm <u>was used to discharge the red fluorescent paste, the green fluorescent paste and the blue fluorescent paste in this order, and then respective pastes were dried at 80°C for 60 minutes with the coated side turned downward.</u>
5	Fig. 1	3: substrate, 8: paste applicator

(h) contained in a paste applicator positioned above the substrate

U.S. Application	
1	<p>Page 5, first paragraph, lines 1-6</p> <p>The method for producing a plasma display of the present invention comprises the step of continuously <u>applying a phosphor paste</u> containing a phosphor powder and an organic compound <u>onto a substrate</u> with a plurality of barrier ribs <u>from a paste applicator</u> with a plurality of outlet holes, to form a phosphor layer.</p>
2	<p>Page 13, third paragraph</p> <p>(50) A reference mark detecting means for detecting a reference mark on the substrate, and a moving means and control means for relatively moving the paste applicator and the barrier ribs so that <u>the outlet holes of the paste applicator may be located above the spaces between the barrier ribs to be coated with the phosphor paste</u> are provided.</p>
3	<p>Page 37, lines 18-21 and Fig. 1</p> <p>Fig. 1 shows a state where the phosphor paste is applied from the <u>outlet holes of a paste applicator</u> to coat the spaces between the respectively adjacent phosphor <u>(should be read as barrier ribs)</u> of the substrate provided with electrodes, dielectric and barrier ribs.</p>
4	<p>Page 52, lines 16-20 and Fig. 3</p> <p>As a result, the centers of all the outlet holes of the paste applicator 20 are <u>positioned above the respective spaces between the barrier ribs</u> to be coated with the phosphor paste, to complete the relative positioning between the paste applicator 20 and the substrate 4.</p>
5	<p>Page 60, second paragraph</p> <p>It is preferable that the centers of all the outlet holes of the <u>paste applicator</u> are arranged to <u>position above the respective spaces between the barrier ribs</u> to be coated with the phosphor paste.</p>

6	Fig. 4	4: <u>substrate, 20: paste applicator</u>
7	Fig. 8	4: <u>substrate, 801, 802: paste applicator</u>

(i) for one of red, green or blue phosphor paste,

JP '713		
1	Page 5, first paragraph	In the method of the present invention, a glass substrate 3 with electrodes 1 and partitions 2 formed on it is partially coated with a <u>fluorescent paste</u> , particularly <u>fluorescent materials emitting light of three primary colors of red, blue and green in stripes</u> , to form a red fluorescent material layer 4, a blue fluorescent material layer 5 and a green fluorescent material layer 6 respectively.
2	Page 5, third paragraph, lines 1-5	For forming the fluorescent material layers, at first, a paste containing one fluorescent material selected from three colors of R, G and B is discharged from a paste applicator 8 with one or more outlet holes 7, for coating the substrate, and <u>this operation is repeated three times for R, G and B.</u>
3	Page 22, fourth paragraph	(1) Coating step A glass substrate with an electrode layer and a partition layer formed on it is coated with <u>fluorescent pastes</u> at desired places. For coating, each of the fluorescent paste is discharged from a paste applicator with one or more outlet holes. <u>The fluorescent pastes of R, G and B colors are applied in stripes by turns, to form fluorescent material layers of respective colors.</u>
4	Page 27, second paragraph	<u>A glass substrate with two thousand 120 μm high 30 μm wide partitions</u>

		<p><u>formed at a pitch of 150 μm was coated with the respective pastes of red, green and blue in stripes. (in Example 1)</u></p>
5	Page 28, last paragraph	<p><u>A glass substrate with two thousand 140 μm high 50 μm wide partitions formed at a pitch of 360 μm was coated with the respective pastes of red, green and blue in stripes. (in Example 2)</u></p>
6	Page 30, first paragraph	<p><u>A glass substrate with two thousand 120 μm high 30 μm wide partitions formed at a pitch of 150 μm was coated with the respective pastes of red, green and blue in stripes. (in Example 3)</u></p>

(i) for one of red, green or blue phosphor paste,

U.S. Application	
1	<p>The paragraph spanning Pages 7 and 8</p> <p>(20) A method for producing a plasma display in which <u>three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue are applied to the spaces between respectively adjacent barrier ribs on a glass substrate, to form a phosphor plane, comprising the step of removing the phosphor existing in the portions other than the predetermined coating positions by letting them adhere to an adhesive material.</u></p>
2	<p>Page 41, first paragraph, lines 5-10</p> <p>Furthermore, if three or more paste applicators are installed to apply a paste containing a phosphor material emitting light of one color from each of the three or more paste applicators, then phosphor materials of <u>three colors, red, green and blue can be applied at a time for coating.</u></p>
3	<p>Page 70, first paragraph</p> <p><u>The substrate coated with the red, green and blue phosphor pastes</u></p> <p>was burned at 460°C for 15 minutes, and evaluated. The evaluation results are shown in Table 1. (in Example 1)</p>
4	<p>Page 75, first paragraph</p> <p>A phosphor layer was formed as described in Example 8, except that a glass substrate with 2000 barrier ribs with a height of 140 μm and a width of 50 μm formed at a pitch of 360 μm, that a paste</p>

		<p>applicator with 1940 outlet holes with a diameter of 100 μm formed at a pitch of 360 μm, and designed to <u>simultaneously discharge the red, blue and green phosphor pastes</u> was used, and that the application of all the phosphor pastes was followed by drying at 80°C for 45 minutes. The evaluation results are shown in Table 1. (in Example 9)</p>
5	Claim 24	<p>A method for producing a plasma display in which three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue are <u>applied to the spaces between respectively adjacent barrier ribs on a glass substrate</u>, to form a phosphor plane, according to claim 2, wherein the phosphor existing in the portions other than the predetermined coating positions are removed by letting them adhere to an adhesive material.</p>

(j) such that the paste flows downwardly from all of the holes for each color of the phosphor paste at the same time and between the barrier ribs.

JP '713		
1	Claim 2/1	<p>Claim 1: A method for producing a plasma display, in which a <u>glass substrate with partitions formed on it is coated with a fluorescent paste containing a fluorescent material and an organic binder discharged from a paste applicator with outlet holes, and the paste is burned to form a fluorescent material layer, characterizes in that the spaces A between the respectively adjacent partitions and the average diameter B of the outlet holes satisfy the following condition: $500 \mu\text{m} \geq A > B \geq 10 \mu\text{m}$.</u></p> <p>Claim 2: A method for producing a plasma display, according to claim 1, wherein <u>the fluorescent paste is discharged continuously from the outlet holes, to form a fluorescent material layer.</u></p>
2	Page 5, third paragraph, lines 1-5 and Fig. 1	<p>For forming the fluorescent material layers, at first, a paste containing one fluorescent material selected from three colors of R, G and B is <u>discharged from a paste applicator 8 with one or more outlet holes 7, for coating the substrate, and this operation is repeated three times for R, G and B.</u></p>
3	Page 6, third paragraph	<p>To discharge a fluorescent paste from outlet holes, it is preferable to press the paste continuously at a pressure in a certain range, for discharging the paste by the pressure. In this case, <u>the amount of the paste discharged can be kept constant, and a coating layer</u></p>

		with a stable thickness can be obtained.
4	Page 23, first paragraph	So, it is preferable to discharge a <u>fluorescent paste</u> from a paste applicator with 1 to 2000 outlet holes, and to repeat this operation for R, G and B, i.e., three times in total. As another method, the <u>fluorescent materials of respective R, G and B colors</u> can also be <u>discharged simultaneously from a paste applicator</u> designed to allow simultaneous discharge of R, G and B fluorescent materials.
5	Fig. 1	8: paste applicator, 7: outlet holes, 2: partitions, 3: substrate

(j) such that the paste flows downwardly from all of the holes for each color of the phosphor paste at the same time and between the barrier ribs.

U.S. Application	
1	<p>Page 5, first paragraph, lines 1-6</p> <p>The method for producing a plasma display of the present invention comprises the step of <u>continuously applying a phosphor paste</u> containing a phosphor powder and an organic compound onto a substrate with a plurality of barrier ribs from a paste applicator with a plurality of outlet holes, to form a phosphor layer.</p>
2	<p>Page 13, third paragraph</p> <p>(50) A reference mark detecting means for detecting a reference mark on the substrate, and a moving means and control means for relatively moving the paste applicator and the barrier ribs so that the outlet holes of the paste applicator may be located above the spaces between the barrier ribs to be coated with the phosphor paste are provided.</p>
3	<p>Page 37, third paragraph, lines 2-8 and Fig. 1</p> <p>A phosphor paste prepared as described above is <u>applied to the spaces between the respectively adjacent barrier ribs</u> of the substrate with a plurality of barrier ribs. Fig. 1 shows a state where the phosphor paste is applied from the outlet holes of a paste applicator to coat the spaces between the respectively adjacent phosphor <i>(should be read as barrier ribs)</i> of the substrate provided with electrodes, dielectric and barrier ribs.</p>
4	<p>Page 49, last paragraph and Fig. 4</p> <p>In Fig. 4, the paste applicator 20 has a manifold 41 which is filled with a phosphor paste 42. From outlet holes 44, the phosphor paste is applied. The paste applicator 20 is connected with a supply hose 46, being further connected with an electromagnetic change-over</p>

		valve 48 for application, supply unit 50, suction hose 52, electromagnetic change-over valve 54 for suction and phosphor paste tank 56. The phosphor paste tank 56 stores the phosphor paste 42.
5	Page 52, lines 16-20 and Figs. 3 and 4	As a result, the centers of <u>all the outlet holes of the paste applicator 20 are positioned above the respective spaces between the barrier ribs to be coated with the phosphor paste</u> , to complete the relative positioning between the paste applicator 20 and the substrate 4.
6	Fig. 1	Paste applicator, Outlet holes, Barrier ribs, Substrate (glass)

(k) and heating to form a phosphor layer.

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1	<p>Claim 9</p> <p>A method for producing a plasma display, according to claim 1, wherein the coating with the fluorescent paste is followed by a <u>drying step</u>, <u>exposure step</u>, <u>development step</u> and <u>burning step</u>, to form the fluorescent material layer.</p>
2	<p>Page 5, third paragraph, lines 1-7</p> <p>For forming the fluorescent layers, at first, a paste containing one fluorescent material selected from three colors of R, G and B is discharged from a paste applicator 8 with one or more outlet holes 7, for coating the substrate, and this operation is repeated three times for R, G and B. Then, the pastes are dried and burned, to form the fluorescent material layers.</p>
3	<p>Page 6, last paragraph</p> <p>In the present invention, after fluorescent paste is discharged from the outlet holes, it undergoes a <u>drying step</u> and a <u>heating step</u> such as <u>burning step</u>, to evaporate or decompose water, organic solvent, organic component, etc. for removing them, thereby forming a <u>fluorescent material layer</u> formed by a fluorescent powder only.</p>
4	<p>Page 23, third paragraph</p> <p>(2) Drying step</p> <p>The coating is followed by drying. If the coated substrate is dried with the coated side turned downward, the <u>fluorescent material layers</u> of the respective colors can be formed uniformly on the bottoms of the spaces between the respectively adjacent partitions and along the lateral sides. The angle of the substrate with the coated side turned downward is 0 to 30 degrees as an angle formed between the</p>

	<p>glass substrate and the horizontal plane. <u>The drying temperature and time depend on the paste compositions and viscosities, but it is preferable to dry at 50 to 200°C for 5 to 60 minutes.</u></p>
5	<p>Page 27, last paragraph</p> <p>For coating, from a paste applicator having 640 outlet holes with a diameter of 80 μm formed at a pitch of 450 μm, at first the <u>red fluorescent paste was discharged, and dried at 80°C for 60 minutes with the coated side turned downward. Then, the blue fluorescent paste was discharged, and dried at 80°C for 60 minutes with the coated side turned downward. Subsequently, the blue fluorescent paste was discharged, and dried at 80°C for 60 minutes with the coated side turned downward. Furthermore, the obtained glass substrate was burned at 500°C for 30 minutes. (in Example 1)</u></p>
6	<p>Page 29, first paragraph</p> <p>For coating, a paste applicator having 1940 outlet holes with a diameter of 100 μm formed at a pitch of 360 μm and designed to discharge the red fluorescent paste, the blue fluorescent paste and the green fluorescent paste respectively was used to discharge the respective fluorescent materials, and <u>the respective fluorescent pastes were dried at 80°C for 45 minutes. Furthermore, the obtained</u></p>

		<p><u>glass substrate was burned at 500°C for 30 minutes. (in Example 2)</u></p>
7	<p>Page 30, second paragraph, lines 1-6</p>	<p>For coating, a paste applicator having 640 outlet holes with a diameter of 80 μm formed at a pitch of 450 μm was used to discharge the red fluorescent paste, green fluorescent paste and the blue fluorescent paste in this order, and <u>the respective pastes were dried at 80°C for 60 minutes with the coated side turned downward. (in Example 3)</u></p>

(k) and heating to form a phosphor layer.

U.S. Application	
1	<p>Page 5, first paragraph, lines 6-13</p> <p>The method for producing a plasma display of the present invention also comprises the steps of coating a substrate with a plurality of barrier ribs, with three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue, as stripes in the spaces between the barrier ribs on the substrate, from a paste applicator with outlet holes, and heating to form a phosphor layer.</p>
2	<p>Page 44, last paragraph</p> <p>After the phosphor pastes are applied at predetermined positions, they are <u>burned in a burning furnace</u>, to remove the organic component, for forming a phosphor layer. The burning atmosphere and temperature depend on the kinds of the pastes and the substrate. The burning atmosphere is air, nitrogen or hydrogen, etc. A <u>preferable burning temperature is 300 to 550°C.</u> A more preferable range is 350 to 500°C.</p>
3	<p>Claim 2</p> <p>A method for producing a plasma display, comprising the steps of coating a substrate with a plurality of barrier ribs, with three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue, as stripes in the spaces between the respectively adjacent barrier ribs, from a paste applicator with outlet holes, and heating to form a phosphor layer.</p>